

**STUDENT NURSES' EXPERIENCES OF THE OPERATING THEATRE AS A
CLINICAL LEARNING ENVIRONMENT IN LESOTHO**

BY

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Abstract

The operating theatre is a highly specialized environment and has potential for teaching and learning of student nurses. However, the operating theatre as a clinical learning environment for undergraduate student nurses is under-researched within Lesotho and other Southern African countries.

This study was an exploratory and descriptive qualitative study. The purpose was to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho. The research question was: 'What are student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho?'

The population of the study was fourth-year student nurses from one of the three nursing colleges in the Maseru district. Both convenience and purposive sampling were used to recruit the 12 participants. Qualitative data were collected through face-to-face individual interviews using an interview guide. The hybrid approach of thematic analysis was used for data analysis.

Three major themes and seven related subthemes emerged from the data. The first theme, 'The operating theatre as a positive teaching and learning environment' had three subthemes which were, the operating theatre staff's willingness to teach; socialization into the operating theatre nurse practitioner role; and the operating theatre as an environment for integration of theory and practice. The second theme, 'The operating theatre as a negative learning environment' had two subthemes which were, the operating theatre as an anxiety-provoking environment; and the operating theatre as a chaotic environment. The third theme, 'The appropriate duration for learning' had two subthemes which were, effects of long duration; and effects of short duration.

The findings highlight that the operating theatre can provide appropriate experiential learning and professional socialization of student nurses into the operating theatre nurse practitioner role if the attitudes and behaviours of operating theatre staff are positive towards their teaching role.

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Chapter one

Overview of the study

1.1 Introduction and background to the study

The purpose of clinical learning in nursing education is to help student nurses to observe, practice and develop clinical nursing skills that are relevant in the specific field (Levette-Jones & Lathlean 2007:110). Bastable (2003:10) describes learning as a change in behaviour that can occur due to exposure to environmental stimuli. Learning also involves the teacher and the student, who jointly perform teaching and learning activities which lead to mutually desired behaviour. Learning only occurs if the experience is used productively (Nolan 1998:625). Therefore Nolan (1998:625) concluded that if the environment is not supportive of the student's learning, the desired learning and application of skills may be reduced.

Clinical learning experiences are the most important elements in the whole learning process of student nurses (Papp, Markkanen & Bonsdorff 2003:263; Dunn & Hansford 2008:1299). The purpose of clinical learning is to provide student nurses with learning opportunities that represent the real-life scenarios in which they will work after graduation. This is further elaborated by Levette-Jones & Lathlean (2007:110), who state that learning in the clinical environment provides the real-world context for student nurses to develop the knowledge, skills, attitudes and values of the professional nurse.

The way in which student nurses are orientated into the clinical environment can significantly influence their learning. Hathorn's (2006:168) study on lived experiences of nurses working with students in the acute care unit found that students reported obstructing behaviours by professional nurses. The professional nurses made condescending comments, were not interested in helping students, and did not allow student nurses to participate in patient care. These negative attitudes were reported to

be related to the additional stress and responsibility of working with the students (Hathorn 2006:241).

The operating theatre is one of the most specialized and important clinical learning environments for student nurses to learn operating theatre skills. However, due to the intensity and urgency with which some of the activities are performed, student nurses could sometimes feel threatened and not able to appreciate the operating theatre as a clinical learning environment. This is confirmed by Reid (2007:2), who describes the operating theatre as an alien, hostile, overwhelming and uninviting environment for inexperienced student nurses. In recognition of this, Silen-Lipponen *et al* (2004:245) describe the operating theatre as a stressful learning environment where methods of dealing with mistakes and the dichotomy between emotional and technical responsibilities should be acknowledged to contribute to students' professional growth.

In the operating theatre people work in teams of different specialties that may include student nurses. It is therefore recommended that the operating theatre manager ensures organized teamwork by assigning enough experienced staff to each of the teams in order to balance the responsibilities and meet the students' learning needs (Silen-Lipponen 2005:59).

The role of teachers in such a specialized environment should be to encourage interaction rather than passivity, and to seek the learning opportunities that exist for student nurses to learn. They should be an encouragement of structured reflection on their experiences which may enhance meaningful learning for student nurses (Reid 2007:3). In a study on the clinical environment as a learning environment, Papp *et al* (2003:265) found that registered nurses who are not interested in mentoring are regarded by student nurses as having a negative attitude. Andrews and Roberts (2003:476) confirm that mentoring is one of the aspects that support student nurses in the clinical environment. A good mentor, from the student perspective, is someone who is supportive and acts as a good role model as well as a teacher and assessor. A good mentor has genuine concern and the students' interests at heart (Andrews & Roberts

2003:476). Adequate mentoring and an accepting team atmosphere have been identified as factors that promote student nurses' learning in the operating theatre (Andrews & Roberts 2003:476). Silen-Lipponen (2005:67) suggests that a good mentoring process helps students to gain team membership, enables them to experiment with the professional roles and maintains motivation and a positive attitude towards teamwork. Elliott (2002:36) therefore recommended that the professional nurses who work in the hospitals in which student nurses undertake clinical learning experience should be adequately prepared for their role as mentors for student nurses.

Furthermore, Papp *et al* (2003:265) suggest that good cooperation between the nursing management and clinical facilitator would enhance acceptance of students as fully participating members in the operating theatre. Student nurses need to be aware of their own limitations and potential, have a sense of responsibility and a positive attitude (Papp *et al* 2003:267). Papp *et al* (2003:265) recommended that clinical learning should occur at the right time so that theory and practice complement each other and that experiences in the operating theatre should be long enough for meaningful learning.

1.2 Rationale for the study

The researcher conducted this study on student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho with the purpose of exploring and describing the student nurses' experiences as experienced by the participants. The rationale for this study emanated from the researcher's interest as an operating theatre nurse to investigate whether the student nurses find the operating theatre as a positive or negative learning environment so as to properly address their experiences by making relevant recommendations that may create a good learning environment for student nurses in Lesotho.

Lesotho is a country in Southern Africa which is entirely surrounded by South Africa. Lesotho is divided into ten districts. Maseru, where this study was conducted, is the capital city. There are three nursing colleges in the Maseru district. All of the nursing

colleges provide a four year Diploma in General Nursing and Midwifery (Council of Higher Education Lesotho [CHEL]: 2012:68).

1.3 Problem statement

Literature reviewed revealed that clinical learning is the integral part of nursing education in which student nurses are able to integrate theory with practice as well as be socialized into the nursing profession (Dunn & Hansford 2008:1299). The operating theatre as a clinical learning environment is equally important.

Although the operating theatre is considered to be the essential clinical learning environment for student nurses, Hauxwell (2010:2) states that it has not been studied adequately. This is corroborated by Gabrielson (2012) who states that there is limited literature on student nurses' experiences of their learning in the clinical learning environment and more particularly in operating theatre setting and therefore found there is need for more studies on the operating theatre as a clinical learning environment. This is more of a problem in Lesotho and other Southern African countries, where no literature on the operating theatre as a learning environment was found.

This lack of literature on the operating theatre as a learning environment in Lesotho is a problem for both educational institutions and student nurses. Educational institutions have to demonstrate how clinical learning outcomes related to the operating theatre are met in their programmes. Student nurses may also need to be convinced that the operating theatre is a good clinical learning environment. This lack of evidence from research makes it impossible to convince student nurses as well as the professional nursing bodies of the need to place student nurses in the operating theatre during their training.

This highlighted the imperative need to investigate the operating theatre as a clinical learning environment in Lesotho. An investigation of the student nurses' experiences

may contribute to identifying areas that need special attention and could inform development of appropriate learning objectives in the operating theatre.

1.4 Purpose of the study

The purpose of this study was to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho.

1.5 Objectives of the study

The objectives of the study were:

- To explore student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho.
- To describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho.

1.6 Research question

The research question was: What are student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho?

1.7 Significance of the study

The findings of the study could enable nursing education institutions to know the aspects of the operating theatre that affect student nurses' learning either positively or negatively, and to work towards effective planning for student nurses' placement in the operating theatre. The findings could also enable the operating theatre staff to provide

student nurses with the support that they need for their learning to be effective in the operating theatre as a clinical learning environment.

1.8 Definition of terms

1.8.1 Clinical learning environment

Clinical learning environment is a place in any practice setting which includes the wards, community health centres as well as specialized departments such as the operating theatre and the intensive care unit, where student nurses learn practical skills (Quinn 2000:413).

1.8.2 Student nurses

For the purpose of this study, the student nurse is a nurse undergoing training which leads to the achievement of the Diploma in General Nursing and Midwifery (CHEL 2012:68) and registered as such by the Lesotho Nursing Council according to the Nurses and Midwives Act (No. 12 of 1998).

1.8.3 Operating theatre

The *Oxford Dictionary of Nursing* (1998) and the compact *Oxford English Dictionary* (2008) define the operating theatre as the department within the clinical environment where surgical operations are performed.

1.9 Chapter outline

This research report is structured as follows:

Chapter 1: This chapter introduces the background and rationale for the study, problem statement, purpose of the study, research question and objectives of the study and significance of the study. The definition of terms that are related to the study concludes this chapter.

Chapter 2: This chapter discusses the literature review with regard to student nurses' experiences of the operating theatre as a clinical learning environment.

Chapter 3: This chapter outlines the methodology of the study and includes the research design, setting, population of the study, sampling, inclusion and exclusion criteria, recruitment of the participants, sample size, pilot study, data collection and ethical considerations. Limitations of the study conclude this chapter.

Chapter 4: This chapter provides the details of data management and data analysis methods that were used in this study. It concludes with details of how trustworthiness was achieved.

Chapter 5: This chapter presents the results and findings of the study.

Chapter 6: This chapter includes the discussion of the findings, recommendations and limitations and concludes the report of the study.

1.10 conclusion

This chapter outlined the background to the study, problem statement, purpose of the study, research question and objectives of the study. The following chapter outlines the review of literature pertaining to the operating theatre as a clinical learning environment.

Chapter two

Literature review

2.1 Introduction

The literature review is a systematic and critical appraisal of the most important information on a topic, as well as a key step in the process that provides the basis of a research study (Wood & Haber 2010:57). The purpose of reviewing the literature is to provide the researcher with an overview of the existing evidence and contribute to the argument for a new study, as indicated by Polit & Beck (2012:95). Holloway & Freshwater (2007:94) further add that the importance of a literature review is to critically analyze that which has gone on before in research about the phenomenon.

The literature review in this study was conducted prior to data collection. As Wood & Haber (2010:57) indicate, carrying out the literature review before conducting the study means that it serves as a building block and foundation of the study. However, Speziale & Carpenter (2007:26) argue that no literature review should be conducted before the inquiry begins, as this may create some suppositions or biases about the topic under consideration. However, Polit & Beck (2012:495) suggest that the researcher can use bracketing in order to rule out any presuppositions in an effort to confront the data in pure form, as happened in the present study. Bracketing is the process of identifying and holding in abeyance any preconceived beliefs and opinions about the phenomenon under study (Polit & Beck 2012:495).

The literature reviewed revealed plenty of international literature on the operating theatre as a clinical learning environment for health professionals including medical students, surgeons and postgraduate nurses. However there was a dearth of information on the operating theatre as a clinical learning environment for the undergraduate or basic nursing students especially within the Southern African

countries. This convinced the researcher of the need not only to conduct the current study, but also to publish its findings in order to address this gap.

2.2 The operating theatre as a clinical learning environment

Most international researchers reported the operating theatre as a positive learning environment for both experienced and inexperienced health professional students. Literature also revealed universal challenges faced by students in the operating theatre. These include the fact that the operating theatre as a new environment can be perceived by students as uninviting, and lonely. The operating theatre can also be perceived as too chaotic or too busy by some students (Riley 2002:318; Reid 2007:2; Lyon 2003:683). It is clear that when not managed appropriately, the operating theatre can lose its value as a learning environment. This further convinced the researcher to conduct the current research to see how best the operating theatre can be utilized as a learning environment in Lesotho, where no such literature was found.

2.3 Student nurses in the operating theatre as a clinical learning environment

Literature reviewed highlighted that the student nurses have a responsibility towards their learning during clinical placement if the clinical setting is to be seen as a positive learning environment. They need to be aware of their own limitations and potential, have a sense of responsibility and a positive attitude and be positive participants in their own learning (Papp *et al* 2003:267). This was found to be possible where student nurses were provided with the opportunities for active participation in patient care, rather than just an observational role, which contribute richly towards student nurses' learning, as suggested by Newton, Billett & Okerby (2009:630). Lyon (2003:683) found that only students who adopted active learning strategies during clinical placement in the operating theatre reported it as a positive learning environment.

Orientation into the clinical environment was reported to influence the student nurses' experiential learning. This entails familiarizing the student nurses with the clinical learning environment, which makes them feel welcome and is thus important for effective learning (Hathorn 2006:12). According to Lofmark and Wikblad (2001:45) during this orientation, the student nurses may notice how busy the operating theatre is, the interactions of the surgical team and the attitudes of the nursing staff. They concluded that it is important to give the student nurses an opportunity to observe first before practicing in the operating theatre in order to build their level of confidence and promote their independence during clinical placement.

The reviewed literature revealed the negative attitudes and behaviours of operating theatre staff towards teaching the student nurses including scolding and shouting at them which left the student nurses anxious. This compromised open interaction between the student nurses and the staff, and thus negatively affected learning during placements. This was confirmed by three different South African studies, which stated that the negative staff attitudes could have a negative impact on the student nurses' appreciation of their clinical nursing roles and thus affect their competencies in patient care in the future (Mabuda 2006:82; Mogale 2011:85; Tshabalala 2011:40).

Other studies highlighted the need for good interpersonal skills and team work among operating theatre staff as important for students nurses' experiential learning to take place, as well as allay the anxiety provoked by this new and unwelcoming environment. These studies suggested that the qualified nursing staff in the operating theatre should work as a team and strive to make the students feel part of the team to enhance the student nurses' learning during the placement in the operating theatre (Silen-Lipponen 2005:26; Saarikoski & Leino-Kilpi 2002:260). Saarikoski and Leino-Kilpi (2002:261) concluded that if nursing care occurs in a spirit of caring, the student nurses can learn the core of nursing care through their caring experiences observed during clinical placement.

This was further supported by a South African study, where Mabuda (2006:51) also concluded that caring behaviour is learned by student nurses through observing role-modelling experts' interactions in the clinical learning environment. In addition to the operating theatre nursing staff, Quinn (2000:418) also suggested that the non-nursing staff members such as surgeons and anaesthetists should also contribute to the learning environment that adds to the student nurses' learning if they consider themselves as part of the whole team.

2.4 The operating theatre as a space for socialization of student nurses into their practitioner roles

The clinical setting was highlighted by the literature reviewed as the space where student nurses are socialized into their future roles by learning to use knowledge in practice to develop psychomotor skills, which helps them to make decisions about which field of nursing they want to work in after graduation (Peyrovi *et al* 2005:134). This is also supported by Silen-Lipponen (2005:64), who states that a positive teamwork experience resulted in the student nurses wishing to work in operating theatre teams after graduation.

The student nurses are socialized into the operating theatre nurse practitioner role by giving them the opportunity to practice the procedures in the operating theatre. In support of this, Lofmark and Wikblad (2001:45), in their study on facilitating and obstructing factors for learning in practice, found that being allowed to take responsibility, being allowed to work independently, having the opportunity to practice procedures and gaining an overview of the clinical setting were facilitating factors for socialization of student nurses into the nurse practitioner role. Silen-Lipponen (2005:64) therefore recommended that student nurses be given an opportunity to practice in the teams in the operating theatre, and be recognized as operating theatre team members in order to stimulate them to learn.

2.5 Challenges to using the operating theatre as a learning environment

The literature reviewed revealed the challenges that can render the operating theatre as a negative clinical learning environment for student nurses. These include the shortage of both material and human resources which makes it difficult to perform certain procedures correctly. For instance in one South African study, the student nurses were reported to be dissatisfied that some surgical operations could not be done in the operating theatre because of lack of equipment (Mogale 2011:80). It was further reported that the student nurses in that particular operating theatre did not gain learning experience in terms of pre-operative, intra-operative and post-operative nursing care of some operations. Another South African study found that shortage of qualified professional nurses, coupled with excessive workload to provide effective clinical teaching of the student nurses impacted negatively on student nurses' learning during clinical placement (Murathi, Maselesele & Netshandama 2005:18). Both these studies were conducted in South Africa, a neighbouring country to Lesotho which is known to be better resourced than Lesotho. Although the findings of these studies address the general clinical learning environment they, convinced the researcher of the need to conduct the study in Lesotho in order to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in this country.

2.6 Duration of clinical placement in the operating theatre as a clinical learning environment

Literature reviewed revealed that the duration of the clinical placement of students in the operating theatre can affect the level of clinical learning and of confidence reached by the student nurses. For instance Silen-Lipponen (2005:64) found that short placements leave little time for reflection and insufficient time to explore new practices for student nurses. Levette-Jones *et al* (2011:12) also reported that very short placements had the potential to negatively affect the student nurses' ability to get used to the clinical environment and use it productively. They concluded that staff members are more likely

to welcome student nurses if they know that they are going to be with them for a longer period of time. They therefore recommended that student nurses' operating theatre placement should be long enough to allow them the necessary learning opportunities. However, Edmond (2001:255) argues that it is not the clinical hours that matter, but the quality of the clinical learning experience that the student nurses receive when placed in the operating theatre.

2.7 Conclusion

Literature reviewed from both developed and Southern African countries showed that the operating theatre can provide student nurses with positive experiential learning if the student nurses take full responsibility for their learning. The operating theatre can also be a negative environment when there are inadequate resources. Conducting the literature review convinced the researcher of the need to carry out the current study in Lesotho.

Chapter three

Methodology

3.1 Introduction

The purpose of this study was to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho. This chapter discusses the research methodology including the research design, research setting, sampling methods used, sample size, inclusion and exclusion criteria, recruitment of participants, pilot study, data collection methods that were used and ethical considerations. The chapter concludes with limitations of the study.

3.2 Research design

Research design is the overall plan for addressing a research question, including specifications for enhancing the study's integrity (Polit & Beck 2008:765). An exploratory and descriptive qualitative research design was selected for this study in order to assist the researcher to explore and describe the student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho. This design provided the researcher with a detailed and accurate account of the phenomenon from the participants' perspective as suggested by Terre Blanche, Durrheim & Painter (2006:44). This design was found to be appropriate in answering the research question: What are the student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho?

3.3 Research setting

The research setting for the study was one of the three nursing colleges in the Maseru district in Lesotho which train student nurses for the Diploma in General Nursing and Midwifery (CHEL: 2012:68). During the first three years of training, student nurses are exposed to clinical experience in general nursing, psychiatric nursing and community health clinical settings in accordance with Nurses and Midwives Act (No. 12 of 1998). Placement of student nurses in the operating theatre and other special units may begin in the third year when student nurses are more senior and have mastered some clinical confidence. The fourth year of training is reserved for training in Midwifery.

3.4 Population of the study

Babbie and Mouton (2011:174) state that the study population is the aggregation of the elements from which the sample is selected. The population for this study was a group of 26 student nurses enrolled in the fourth academic year of nursing education and training in the selected nursing college in the Maseru district in Lesotho. The fourth year student nurses were selected because they would have had a clinical placement for clinical purposes for a minimum of four weeks during their third year of training.

3.5 Sampling

Sampling is the process of selecting the portion of the population to represent the entire population (Polit & Beck 2008:339). Both convenience and purposive sampling were used to recruit participants in this study. According to Burns & Grove (2009:353) in convenience sampling, participants are included in the study because they happen to be in the right place, at the right time. Cohen, Manion & Morrison (2001:103) describe purposive sampling as the kind of sampling where the participants are selected because they possess certain characteristics. The fourth-year student nurses who were available at the college during data collection and who met the inclusion criteria were recruited in

the study. These participants were recruited purposively as they had the experiences and information that the researcher wished to explore in order to answer the research question.

This nursing college was selected purposefully and conveniently. The selection was purposeful because the nursing college is known to utilize the operating theatre for student nurses' learning. It was conveniently selected because of its distance from the researcher's workplace, which made it convenient, accessible and affordable for the researcher in terms of travelling expenses.

3.6 Inclusion criteria

The inclusion criteria are the characteristics which should be possessed by a person to be considered as a participant in a study (Polit & Beck 2008:338). The inclusion criteria were student nurses who:

- were currently enrolled in the fourth year of training at the specific nursing college in Maseru district in Lesotho;
- had completed a clinical placement and all the operating theatre clinical procedures for a minimum of four weeks in their third year of training; and
- voluntarily agreed to participate in the study.

3.7 Exclusion criteria

Exclusion criteria refer to the characteristics that restrict the population to the homogenous group of participants (Wood & Haber 2010:222). The exclusion criteria were student nurses who:

- chose not to volunteer as participants in the study; and

- had their placement in the operating theatre for less than four weeks.

3.8 Recruitment of the participants

Recruitment of participants was conducted after ethical clearance was received from the University of Cape Town Faculty of Health Sciences Human Research Ethics Committee (Appendix C). Permission to conduct the study was obtained from the National Research Committee of the Ministry of Health in Lesotho (Appendix D), the College Principal (Appendix E) and the Medical Superintendent of the hospital where the study was to be conducted (Appendix F). This hospital works in collaboration with the college for clinical training of student nurses.

The researcher first met the college principal at the end of February 2013 to introduce herself and request permission to conduct the study. The college principal gave the researcher permission to conduct the study in the first week of March and introduced the researcher to the Head of the Midwifery Programme who is in charge of the Midwifery students. The Head of the Midwifery Programme accompanied the researcher to the hospital, because the student nurses were at the hospital for their clinical experience. The researcher was introduced to the student nurses and the Senior Nursing Officer. The researcher then provided the participants with the purpose of the study and information about the study. The student nurses were requested to participate in the study. They were made aware through the information sheet that they had the right to choose to participate or not participate in the study (Appendix A). Informed consent was obtained from the student nurses who voluntarily participated in the study prior to the interviews (Appendix B).

The Senior Nursing Officer provided the researcher with a venue for the interviews which was the office in maternity ward, the department where the student nurses were placed for their clinical learning experience. The student nurses were informed about the venue and the time of the interviews during their group meeting with the researcher.

All student nurses agreed to participate in the study, but only 12 participants were recruited because they met the inclusion criteria.

3.9 Sample size

A sample is a subset of the population selected to participate in a study (Polit & Beck 2008:67). In qualitative research samples tend to be smaller although there is no hard and fast rule as to how large they must be (Gerrish & Lacey 2011:22). The sample size for this study was 12 participants. The sample size of 12 participants for the present study was based on inclusion criteria.

The sample size of 12 participants was found to be adequate for this qualitative study. A small sample provides an in-depth exploration of the phenomenon, and is typical of the qualitative research. Burns and Grove (2009:361) support this small sample size in qualitative research by stating that here the focus is on the quality of information obtained from the participants and not on the number of those interviewed.

3.10 Pilot study

A pilot study is a small-scale version of the real study to check the feasibility of the study (Robson 2002:185). The pilot study is conducted to test the data collection instrument and to familiarize the researcher with use of the audio-recorder (Silverman 2006:199). Yen (cited in Robson 2002:185) states that a pilot study helps the researchers to refine their data collection plans regarding the content of the data and procedures to be followed. In pilot studies a small sample of participants is used as a representative of the proposed sample before the main study is conducted (Terre Blanche *et al* 2006:491).

Recruitment of three participants for the pilot study was done in the first week of March 2013, and the pilot study was conducted with these three participants during the second

week of March 2013. The purpose was to use the interview guide to collect data and to conduct preliminary data analysis to identify inconsistencies, gaps, or flaws in the data collection instrument as recommended by Terre Blanche *et al* (2006:490). The pilot interviews were conducted in the office near the maternity ward provided by the Senior Nursing Officer. During the pilot interviews the noise from the activities in the maternity ward were picked up by the voice recorder. As a result permission was granted to use a different venue for the main study.

All participants indicated that they had no difficulties in answering the questions, and therefore no changes were made to the interview guide. The data obtained from the pilot study were included as part of the main data analysis and findings, because similar data collection and analysis procedures were used in the main study. This is supported by Duma (2006:89), who says that the data from the pilot study can be included in the main study without any data contamination if similar data collection and analysis methods are used.

3.11 Data collection

The main data were collected between the third and fourth week of March 2013. Individual face-to-face interviews using the interview guide that was developed by the researcher were used to collect the data (Appendix G). An interview guide is a method of data collection that focuses on particular aspects of the subject area and ensures that the researcher collects similar data from all participants (Holloway & Wheeler 1997:56). The duration of the interviews was different for each participant, ranging from 45 minutes to an hour.

The interviews were conducted in English as all the participants could speak English. Probing questions were asked in order to elicit more useful information than the participants volunteered initially (Kvale 1996:133). Examples of probing questions that were used were ‘-How did that influence your learning?’ and ‘-Could you please elaborate further on that?’

Field notes were used by the researcher to document her observations and expressions that could not be captured by the voice recorder. Field notes are those that are taken by the researcher to record unstructured observations or occurrences in the setting that seem of vital interest (Polit & Beck 2008:406).

The interviews were audio-recorded. Permission to use the digital voice recorder for data collection was asked from the participants prior to the interview sessions. Interviews were carried out once with each participant. The participants listened to their recorded interviews in order to make clarifications and additions where necessary.

3.12 Ethical considerations

All ethical principles that are designed to protect the participants from harm or risk were applied throughout the research process in accordance with the Declaration of Helsinki (World Medical Association 2008) as outlined below:

Ethical clearance was received for the research project, through approval from the University of Cape Town Faculty of Health Sciences Research Ethics Committee (Appendix C). Permission to conduct the study was obtained from the National Research Committee of the Ministry of Health in Lesotho (Appendix D), the College Principal (Appendix E) and the Medical Superintendent of the hospital where the study was to be conducted (Appendix F). This hospital works in collaboration with the college for clinical training of student nurses.

During this study the following ethical principles were adhered to in accordance with the Belmont report (1979): autonomy, justice, non-maleficence, beneficence, confidentiality and anonymity.

3.12.1 Respect for autonomy

Respect for autonomy means that the participants can make free, independent and informed choices without coercion (Holloway & Wheeler 1997:39). Participants were provided with information about the research, its purpose and the right to choose to participate or not participate in the study, through the information sheet (Appendix A) during recruitment. All of the student nurses agreed to participate in the study.

3.12.2 Informed consent

Informed consent means that the participants have enough information regarding the research, and are capable of comprehending the information and have the power to consent voluntarily to participate in the research or decline participation (Speziale & Carpenter 2007:62). Written and oral consent was obtained from the participants. Only the English version of the consent form was formulated because all of the participants could understand English (Appendix B). Permission to use the digital voice recorder for data collection was asked from the participants prior to the interview sessions. All of the participants agreed to the use of the digital voice recorder.

3.12.3 Confidentiality

According to Holloway & Wheeler (1997:46), the right to confidentiality means that the information which the participants provide is not disclosed in a way that will identify them. Anonymity exists when the participant's identity cannot be linked with his or her individual responses (Wood & Haber 2010:253).

To ensure confidentiality and anonymity, the names of the participants were not used on the interview transcripts, and instead pseudonyms were used. The name of the setting for the study will not be revealed in the dissemination of the findings. The transcribed participants' interviews were stored in Microsoft computer files and the printed

transcripts were locked in a cupboard where they could not be accessed by unauthorized persons.

3.12.4 Principle of beneficence

The principle of beneficence imposes a duty on the researcher to minimize harm and maximize benefits (Polit & Beck 2008:170). Polit & Beck (2008:170) point out that protection from harm includes psychological harm. The participants were assured that the information that they would give would not be used against them and would not be shared with either the hospital or the college staff (Appendix A). The participants were informed that no payment would be given for their participation in this study. Referral was arranged with the counsellor from the hospital should participants need emotional support during the interviews. However no referrals were made as there were no signs of distress observed by the researcher or reported by the participants during the data collection period.

3.12.5 Principle of non-maleficence

Non-maleficence implies that the researcher has an obligation to avoid, prevent or minimize harm in studies involving human participants (Polit & Beck 2008:170). The participants were informed that the information they shared with the researcher will not be shared with the college and hospital staff and will not affect their studies and future employment.

3.12.6 Principle of justice

The principle of justice requires that each person is treated fairly, equitably and given what he or she is due (Polit & Beck 2008:174). In order to ensure justice, the

participants were given equal opportunity to participate in the study as indicated by the inclusion and exclusion criteria.

3.13 Limitations of the study

Burns and Grove (2009:38) describe limitations as restrictions in the study design that limit the credibility of the findings and the population to which the findings can be generalized.

The sample size of 12 participants is too small to represent the entire population of the student nurses in Lesotho. Moreover the study was conducted in one district out of the ten districts of Lesotho.

The other limitation was that researcher had a problem finding a suitable venue that would fit the definition of a natural setting for the student nurses. Some parts of the hospital were under renovation during the data collection period. The venue that was provided initially was too noisy, as it was near the maternity ward and many of activities which were happening there could be picked up on the voice recorder. After the first three interviews which made up the pilot study, the venue was changed to a quiet office in a private block.

3.14 Conclusion

This chapter discussed the research methodology which includes the research design, research setting, sampling, inclusion and exclusion criteria, recruitment of the participants, data collection, ethical considerations and limitations of the study. The next chapter discusses the data analysis strategies which were used in this study.

Chapter four

Data analysis

4.1 Introduction

This chapter discusses data management strategies and the data analysis approach that was used to analyze and interpret qualitative data from the participants in this study. It concludes with the methods that were used to ensure trustworthiness throughout the study.

4.2 Data management

According to De Voss *et al* (2009:28), data management is the process of organizing data in preparation for data analysis. The audio-recorded interviews were transcribed verbatim within 24 hours after each interview. This helped the researcher to remember all the related events that occurred during the interview, such as important physical gestures and other non-verbal communication, as recommended by Rubin and Rubin (2005:204).

The transcribed data were stored in a Microsoft computer file and backed up in an external hard drive. This practice ensured the safety of the data in case the computer was stolen or the main file was destroyed. Molefe (2008:41) and De Voss *et al* (2009:28) state that the transcribed data should be kept safely. All of the audio-recorded data and transcripts were kept safe and will be destroyed when the examination results of the research report have been received. This is to ensure that they form part of the audit trail and can be retrieved at any time if required.

4.3 Data analysis

Data analysis is an ongoing process that involves breaking data into meaningful parts with the purpose of examining and interpreting them in meaningful terms (Savin-Baden & Major 2012:434; Polit & Beck 2012:62). According to Speziale & Carpenter (2007:46), data collection and analysis are parallel processes in qualitative research. However, for the purpose of writing up the two processes are recorded separately in this research report.

The guiding research question was: What was your experience of the operating theatre as a clinical learning environment?

The Aronson (1994) hybrid approach of thematic analysis was used for data analysis. This approach of thematic analysis follows the following six steps:

- Transcription of the conversation: According to Bailey (2008:129) transcription of data is representation of the audible data in the written form. Data transcription includes documentation of the reactions of participants which cannot be captured by the audio-recorder.
- Listing of patterns from the transcriptions: This involves coding the data by highlighting them with different colours with each colour representing a certain meaning (Ryan & Bernard 2003:95).
- Identification of data that relate to the patterns, putting them with corresponding patterns: According to De Santis & Ugarriza (2000:357), this stage involves combining data patterns into meaningful units according to similarity or relatedness.
- Related patterns are put together into subthemes from which themes are identified: Patterns are interpreted for meaning until the emergence of themes and subthemes occurs (De Santis & Ugarriza 2000:357).

- Searching literature to support the themes: Related literature from the previous studies is used to support the findings of the current study.
- Formulating the theme statements to develop the storyline: The emerging themes are presented with the support of extracts from the data.

These steps were applied in analyzing the data, as outlined below:

4.3.1 Listing of patterns from the transcriptions

The researcher read and re-read each participant's transcript in order to familiarize herself with the data. Reading and re-reading the transcripts helped the researcher to get more understanding of the data and to identify the patterns within the data. In order to identify the patterns, different coloured pens were used to highlight words or sentences or paragraphs which conveyed a certain meaning, as labels. Each colour code was assigned a meaning. The codes were assigned on the basis of the research question, but the researcher still maintained openness to let unexpected codes be accommodated as they emerged. The codes are labels assigned to the large amounts of data to identify the patterns to which they belong (Rebar *et al* 2011:70).

4.3.2 Identification of data that relate to patterns and placing them accordingly

The combination of a case-by-case and across-case approach was used in the present study. In the case-by-case and across-case approach the researcher starts by analyzing data from individual cases and then proceeds to compare significant statements from each individual account with every participant account, paying special attention to the commonalities across cases in order to identify patterns (Duma 2006:125; Ayres, Kavanaugh & Knafl 2003:874). Using a three-column table the researcher arranged the coded data from each transcript by grouping them according to similarity and connection in order to form the patterns.

Once data from the transcripts were placed in the same table, the researcher proceeded to compare these commonalities across cases in order to identify patterns.

An example of how a three-column table was used to arrange the patterns is shown below (Table 1).

Table 1: Labels and patterns

Data from transcript	Label	Pattern
(a) They showed us the instruments (b) Most nurses were willing to teach (c) Procedures were demonstrated (d) told me where I was right and where I was wrong	Teaching	Positive experience
(a) The sister shouted at me... ..I was frozen most of the time... .. (b) doctors are harsh to the nursing staff (c) Nursing staff are harsh to the student nurses. (d) ...can bring discomfort to the student nurse who is learning	Discomfort	Negative experience

4.3.3 Related patterns put together into subthemes from which themes are identified

Related patterns were grouped together and each group was analyzed for meaning according to the researcher's interpretation of the data and the message that the data conveyed. This was also done on the basis of the research question. This process was

continued until the researcher had interpreted all data meaningfully. The process resulted in identification of three major themes and seven subthemes that emerged. These are presented in Table 2.

Table 2: Themes and subthemes

Theme	Subtheme
1. The operating theatre as a positive teaching and learning environment.	(a) Operating theatre staff's willingness to teach (b) Socialization into the operating theatre nurse practitioner role. (c) Environment for Integration of theory and practice learning
2. The operating theatre as a negative learning environment.	(a) The operating theatre as an anxiety provoking environment. (b) The operating theatre as a chaotic environment.
3. Appropriate duration for learning.	(a) Effects of short duration (b) Effects of long duration

The researcher had an extensive discussion of the emerging themes and subthemes with the research supervisor who is an expert in qualitative research. This involved going back and forth from raw data to indicate how each interpretation and meaning was reached by the researcher. The emerging themes and subthemes were checked against the raw data and against the research question, until both were convinced of the themes and subthemes as the findings of the study. However, before finalizing these,

the literature was reviewed to support the emerging themes and subthemes. This is discussed below.

4.3.4 Search literature to support the themes

International literature was reviewed to support the identified themes in order to confirm these as such. There was plenty of literature to support the identified themes which confirmed the researcher's findings. This literature is discussed in chapter five below.

4.3.5 Formulating the theme statements to develop the story line

To develop the storyline, the three emerging themes were presented in the form of a table with subthemes and examples of a few extracts from the data (see Table 3 for part of the table, presented as an example). The table was then taken to the participants as a storyline for member checking. According to Holloway (2008:239) member checking is when the research findings are taken back to the participants for verification.

Of the 12 participants, the researcher managed to meet 8 of them for member checking, and met with them face-to-face between 25 June and 4 July 2013. The meetings with the participants were arranged telephonically. The researcher could not meet the other four participants as their cell numbers were not reachable during that time. Eight participants were considered adequate for verification purposes, since this was the majority.

All of the participants agreed that the storyline reflected their views about their experiences of the operating theatre as a clinical learning environment. This was considered the final step of thematic analysis, and confirmed the findings as the following three themes and seven subthemes:

Theme 1: The operating theatre as a positive teaching and learning environment.

- (a) Operating theatre staff's willingness to teach
- (b) Socialization into the operating theatre nurse practitioner role.
- (c) The operating theatre as an environment for Integration of theory and practice learning.

Theme 2: The operating theatre as a negative learning environment.

- (a) The operating theatre as an anxiety-provoking environment.
- (b) The operating theatre as a chaotic environment.

Theme 3: Appropriate duration for learning.

- (a) Effects of short duration.
- (b) Effects of long duration.

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Table 3: Storyline example

Themes	Subthemes	Extracts
The operating theatre as a negative environment	<u>Subtheme 1</u> The operating theatre as an anxiety provoking environment	<p><i>“Sometimes the doctors were harsh to the registered nurses and registered nurses to the students. And that thing itself brought discomfort to me as a student who is still learning.”</i></p> <p><i>“This sister shouted at me... .. I was frozen most of the time when I was in the theatre... ..”</i></p> <p><i>“... .. Being scolded when I made a mistake... after that I was afraid to take initiative to do procedures which were not familiar.”</i></p>

4.4 Trustworthiness

Trustworthiness is the process of demonstrating rigour in qualitative studies (Speziale & Carpenter 2007:49). According to Guba and Lincoln (1990:235) trustworthiness in qualitative research is established through credibility, transferability, dependability and confirmability which act as alternatives for reliability and validity in quantitative studies.

4.4.1 Credibility

Credibility refers to confidence in the truth of the data and their interpretation (Polit & Beck 2008:539). Speziale and Carpenter (2007:49) maintain that credibility in qualitative research includes activities that increase the probability that convincing findings will be produced. The researcher engaged in bracketing throughout the process of data collection and analysis in order to stay true to the data. Bracketing is the process of putting aside one's own presuppositions, not making judgements about what one has observed or heard, and remaining open to the data as they are revealed (Speziale & Carpenter 2007:27).

Speziale and Carpenter (2007:49) further point out that credibility is established when the participants recognize the findings of the study as true to their experiences. To ensure this, member checking was done at the end of data analysis. According to Holloway (2008:239) member checking is when the research findings are taken back to the participants for verification. Member checking can be done during data collection and on completion of the study (Holloway & Freshwater 2007:106).

Member checking in this study was done by providing the participants with the storyline in the form of a table. They were each asked to verify whether the storyline in terms of themes and subthemes was a reflection of their experiences of the operating theatre as a clinical learning environment. The participants confirmed the results as reflecting their experiences.

4.4.2 Dependability

Dependability refers to the degree to which the reader can be convinced that the findings did indeed occur as the researcher says they did (Terre Blanche *et al* 2006:93). It is demonstrated if evidence is consistent and stable (Polit & Beck 2012:175). Terre Blanche *et al* (2006:94) also state that dependability is achieved by providing the reader with a frank statement of the methods used to collect and analyze data as the audit trail.

The audit trail entails a description of all procedures and processes conducted from data collection to their analysis (Creswell 2007:291; Polit & Beck 2008:545).

To ensure dependability of this study, chapter 3 and chapter 4 are provided as the audit trail. All the processes and procedures that were used for data collection and data analysis in this study are recorded to allow the reader to evaluate and follow the effectiveness of the process of inquiry that was undertaken.

4.4.3 Transferability

Transferability means that the findings can be applied to other contexts or settings (Holloway 2008:238). The role of the researcher is to provide the reader with sufficient information to permit judgements about contextual similarity (Polit & Beck 2008:550).

The researcher ensured transferability by providing the reader with a clear description of the research setting, characteristics of the participants (described in chapter 5), data collection methods (chapter 3) as well as data analysis procedures (section 4.3).

4.4.4 Confirmability

Confirmability refers to the ability of the reader to link the findings of the study to the thought processes that led to the conclusions (Speziale & Carpenter 2007:49). According to Savin-Baden and Major (2012:47) confirmability implies that the researcher should demonstrate that the results could or should be corroborated by others. The analyzed data were shared with the research supervisor who, as an expert in qualitative research, has supervised a number of qualitative studies. The supervisor critically questioned the researcher's reasoning for the interpretation of the data, based on the research question and evidence of the raw data. After verification by the research supervisor of how the themes and subthemes were developed and how they were interpreted, the researcher moved to the next step, which is development of the

storyline (which was confirmed by the participants). Extracts from the participants' responses are used to illustrate how the themes and subthemes emerged.

4.5 Conclusion

This chapter discussed data management strategies and data analysis approaches that were used to identify the three themes and seven subthemes as the findings of this study. These findings are discussed further in the next chapter.

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Chapter five

Findings

5.1 Introduction

This chapter presents the findings of the study, which includes the description of the sample and the themes and subthemes which emerged from the qualitative data analysis. Extracts from the participants' data are used as examples to illustrate how each theme and subtheme was developed. These are provided as part of the audit trail.

The purpose of this study was to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho. In line with this purpose, the objectives of the study were: To explore the student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho; and to describe the student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho.

5.2 Description of the sample

The sample consisted of seven females and five males. The slight difference in gender of the participants is acceptable because the nursing profession remains a female-dominant profession, as confirmed by Mogale (2011:64).

The participants' ages were between 21 and 32 years. This is common in nursing education where the students, especially women, enter the nursing programme at a mature age due to early pregnancies or marriage at a young age which is common among Basotho, while some women enter nursing education directly from high school at the age of 17 and 18 years.

All the participants had already received clinical placements for experiential learning in the operating theatre. The duration of clinical placement experience they had received ranged between four and six weeks. One of the Nurse Educator at the college, stated in a telephone discussion on 26 July 2013 that although four weeks is the stipulated duration of placement in the operating theatre, some student nurses get more than that because one student nurse who has previously had placement in the operating theatre, is usually allocated again with the new group, in order to take part in their orientation in the operating theatre. This explains the differences in the duration of operating theatre placement for the student nurses.

5.3. Discussion of themes

The research findings are discussed according to the themes and their subthemes. Examples of extracts from the participants' data are used to demonstrate how the themes emerged from the data.

5.3.1 The operating theatre as a positive teaching and learning environment

This theme emerged from those experiences that enhance the student nurses' experiential learning during clinical placement in the operating theatre. These ranged from behaviours of the staff to observations that enhance the student nurses' understanding of other subjects. The subthemes in relation to staff behaviour included (a) The operating theatre staff's willingness to teach the student nurses; and (b) socialization into the operating theatre nurse practitioner role. The subtheme in relation to observations that enhance the student nurses' understanding of other subjects was (c) the operating theatre as an environment for integration of theory and practice learning.

5.3.1.1 The operating theatre staff's willingness to teach student nurses

The operating theatre staff members' attitudes and behaviours towards their teaching role was experienced as enhancing student nurses' experiential learning.

One participant expressed the positive staff behaviour as a positive experience as follows:

"Sometimes I could see that they were overloaded with work, such as many patients going for operations and preparations for the operations, but they still made time to teach us. That helped me a lot. I appreciated what they were doing"

Another participant expressed the positive staff's attitude as a positive learning experience as follows:

"In some instances, we sat down with the sisters [professional nurses] and they showed us the instruments. Sometimes they gave us the books so that they can go through the instruments together with us. That was nice for me"

One other participant had this to say:

"I learned many procedures in the operating theatre because the doctors and nurses played a big role because they were working together to teach us different things-even how to put the mask [laughing]."

Another participant expressed the positive staff attitude and behaviour as a positive learning experience as a motivation to learning as follows:

"It was really motivating for me to have someone who cared about my learning. Some of the sisters [professional nurse] were really willing to help us learn. They demonstrated procedures and answered my questions nicely."

Another participant commented as follows:

"... after doing the procedure she told me where I was right and where I was wrong. She also answered my questions all the time. I learnt so much from her."

5.3.1.2 Socialization into the operating theatre nurse practitioner role

This subtheme emerged from the behaviour of the staff that enhanced the student nurses' learning of their role as operating theatre nurse practitioners and where student nurses felt they were given an opportunity to perform operating theatre activities. Hence the subtheme was named 'Socialization into the operating theatre nurse practitioner role.'

The following statement demonstrates the student nurses' socialization into the operating theatre nurse practitioner role during clinical placement in the operating theatre:

"My most positive experience was when I was given a chance to be a scrub nurse. Yah it made me feel useful, like I was there as part of the team, not as a spectator. I felt like a real operating theatre sister [professional nurse]."

Another participant expressed the experience of socialization into the operating theatre nurse practitioner role as follows:

"I observed the sister [professional nurses] as she was demonstrating the procedures to us. I also had a chance to assist in minor procedures on my own

and it really inspired me. Being in the operating theatre also inspired me to do operating theatre nursing when I further my studies.”

Another participant commented as follows:

“The most positive learning experience was when I was given an opportunity to be a scrub nurse in caesarean section. It also helped me to learn the names of the instruments as I had to hand them to the doctor under the professional nurse’s supervision.”

Another participant expressed the experience of independence due to socialization into the operating theatre nurse practitioner role as follows:

“I was given a chance to assist in minor procedures without the sister’s [professional nurse] supervision and that motivated me and made me get used to the instruments.”

5.3.1.3 The operating theatre as the environment for integration of theory and practice

This subtheme emerged from participants’ expressions of their experiences in seeing the real human anatomical organs during surgical operations. The nursing college does not have facilities for dissection of cadavers for teaching and learning purposes. Most of the participants have, therefore never had the opportunity to see real human anatomical organs such as the uterus and the bowels. They were seeing human anatomical organs for the first time during the surgical operations and it enhanced their learning because they could integrate classroom theory with the practice of what they observed during surgical operations.

One participant expressed seeing the real human anatomical organs during the surgical operations as a positive learning experience for the integration of theory and practice as follows:

“I saw the operations in real life and I saw the human internal organs live. When the hysterectomy was done I saw the real uterus and other female reproductive organs clearly.”

Another participant explained it as follows:

“It was very interesting for me to see when the patient went for removal of the fibroids. I could see the layers of the abdomen as the doctor was cutting. I even saw the fibroids, something I never understood in class. It was amazing!”

Another participant expressed how the integration of theory and practice was enhanced during the surgical operations as follows:

“The first time I saw the caesarean section I was scared but at the same time happy to see the baby being pulled out of the uterus. Seeing all those structures was interesting. That was the first time I saw the uterus. Suddenly I could understand what a breech presentation is and that it could lead to a difficult delivery.”

Three other participants expressed their experiences of learning to integrate theory and practice in the following way:

“... I learned some of the things in class and in the operating theatre I saw them in real life and I could understand them better. Like when a patient went for

laparotomy, I only knew that I have to maintain aseptic technique. I didn't know how to carry out the aseptic technique when there is no patient. But when the patient was there, I was able to have a clear understanding of how it is carried out."

"Things that I learned in class, I saw them in the operating theatre. Many things became clear to me. When I was in the operating theatre I realized that the things that are written in the books do really exist when people practice them."

"... I also saw how resuscitation is done in real life, to a real patient. This motivated me because at first procedures like resuscitation were performed on models. I felt lucky because we were told that it is rare to have a patient who needed resuscitation in real life. I actually saw resuscitation in real life."

5.3.2 The operating theatre as a negative learning environment

This theme emerged from the participants' experiences of how the operating theatre as a negative learning environment can hinder the student nurses' learning. The theme was further divided into subthemes according to how the participants internalized the experiences of the operating theatre as a negative learning environment: (a) The operating theatre as an anxiety-provoking environment; and (b) The operating theatre as a chaotic environment as experienced by the participants.

5.3.2.1 The operating theatre as an anxiety-provoking environment

This subtheme emerged from the participants' expression of experiences that related to the behaviours and attitudes of staff in the operating theatre that made them anxious or uncomfortable and made them perceive the operating theatre as a different learning

environment from other clinical settings. When these experiences were internalized by the participants, they negatively affected their learning in the operating theatre. For instance one participant expressed this as follows:

“... the doctors were harsh to the registered nurses and registered nurses were harsh to the students. That thing itself brought discomfort to me as a student who is still learning.”

Another participant expressed the staff behaviour as anxiety-provoking as follows:

“This sister [professional nurse] shouted at me.....I was ‘frozen’ most of the time when I was in the operating theatre especially when I had to work with her team.”

Another highlighted the operating theatre as an anxiety-provoking environment as follows:

“... being scolded when I made a mistake... after that I was afraid to take initiative to do procedures which were not familiar. I could not let myself do anything even when I knew what to do.”

Another participant highlighted the negative attitude of staff to the student nurses as follows:

“One day I asked the professional nurse a simple question. All she said was ‘refer to your books.’ I was scared to approach her again. All I needed was for her to show me so that I can know.”

5.3.2.2 The operating theatre as a chaotic environment

This subtheme was developed from the participants' observed experiences of the actual physical environment as negative. This included expressions of the operating theatre as confusing and chaotic for learning purposes, especially during emergency situations and during the performance of major operations.

One of the participants expressed the chaotic environment as follows:

"During emergencies I just stood there. I didn't know what to do. Nobody told me what to do and I was afraid that if I did something, I would make a mistake."

A similar chaotic environment was expressed by another participant as follows:

"I always felt stupid during emergencies because nobody said anything and there was just no time to learn as everything happened so fast and in a confusing way."

Two other participants commented on the chaotic situations in these ways:

"... there was an emergency in the minor operating theatre, everyone seemed to know what they should do. I felt like hiding because no one was giving instructions as to what I must do..."

"When big procedures were done I was just standing there. I couldn't see or learn anything because there were so many people around the patient. No one called me to come closer to see anything."

5.3.3 Appropriate duration for learning

This theme emerged from the participants' experiences of how the duration of their placement in the operating theatre influences their learning. The subthemes in relation to the appropriate duration for learning include: (a) Effects of long duration; and (b) Effects of short duration.

5.3.3.1 Effects of long duration

This subtheme emerged from the participants' expressions of their experiences of the duration, which they perceived as long enough for practical learning in the operating theatre.

One participant expressed the experience of long duration as follows:

"... as time went on I got used to the environment and the procedures, and I really enjoyed being in the operating theatre."

Another participant expressed the experience of how the long duration affects student nurses' learning as follows:

"I was allocated in the operating theatre for six weeks and I was able to get used to the environment and many of the procedures."

One other participant expressed the experience of having a longer placement in the operating theatre as follows:

"At the beginning I was confused by all the procedures and the instruments, and I thought that I won't understand anything in the operating theatre, but the longer I was in the operating theatre, the more I understood some of the procedures... I managed to achieve all the objectives."

5.3.3.2 Effects of short duration

This subtheme emerged from the participants' expressions of their experiences of how short placement of the operating theatre negatively affected their practical learning in the operating theatre.

The following statements demonstrate how short placement in the operating theatre affected student nurses' learning:

"There are a lot of procedures to be learned in the operating theatre, but the placement was short."

"I tried to learn as much as I could, but in the end I found that I couldn't achieve all my objectives because the allocation was too short."

Another participant expressed the experience of the effect of short duration in this extract:

"During the first allocation, we would just stand there like security guards, just observing and in the end I did not learn much because the time was short."

Two other participants had this to say on how the effects of short duration affected the student nurses' learning:

"Placement in the operating theatre is very short as compared to other clinical environments and I did not learn much there because the time was too short. I wish the time could be increased for the future students".

“The allocation in the operating theatre was not the same to all of us. Like I said, I was there just four weeks while some were there for more than that. It was difficult for me to grasp everything in that short time.”

5.4 Conclusion

The above findings are further discussed in the next chapter in terms of previous findings from other studies in the literature that support or dispute the current findings. The discussion chapter will also highlight the recommendations that are related to the findings of this study.

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Chapter six

Discussion of findings, recommendations, limitations and conclusion

6.1 Introduction

This chapter includes a discussion of the findings and the relevant literature that supports the findings, the limitations of the study and conclusions. The recommendations for nursing education, for the operating theatre staff and for future research are also discussed.

6.2 Discussion of findings

6.2.1 The operating theatre as a positive teaching and learning environment

The findings revealed that the operating theatre was experienced by the student nurses as a positive teaching and learning environment when the operating theatre staff was willing to teach the student nurses and socialize them into the operating theatre nurse practitioner role. The findings also revealed the operating theatre as a positive learning environment that allowed the integration of theory and practice, and provided exposure to reality in terms of seeing the anatomical structures in real life.

These findings are similar to those of Newton *et al* (2009:633) who found that the flexibility of staff to accommodate student nurses and allowing student nurses to experience different procedures and practice skills themselves motivate them to some extent. If student nurses are not given enough learning support regarding implementation of practical learning, the clinical learning can be perceived as difficult (Papp *et al* 2003:266). Dunn and Hansford (2008:1301) also support these findings stating that it is easy for student nurses to learn in an environment where they are allowed to ask questions and engage in learning opportunities which enhance their learning.

The socialization of the student nurses into the operating theatre nurse practitioner role is supported by Lofmark and Wikblad (2001:45). In their study on facilitating and obstructing factors for learning in practice, they found that being allowed to take responsibility, work independently, practice procedures and gain an overview of the clinical setting were facilitating factors for socialization of the student nurses into the nurse practitioner role. Although this study was conducted in the general learning environment, its findings support those of the operating theatre as a clinical learning environment.

Silen-Lipponen (2005:64) supports the notion of the operating theatre as a positive environment for the socialization of student nurses into the operating theatre nurse practitioner role. She found that student nurses do not benefit from the multi-professional teams until they are allocated in the operating theatre. She therefore recommended that student nurses be given an opportunity to practice in the teams in the operating theatre and be recognized as operating theatre team members in order to stimulate them to learn.

According to Silen-Lipponen (2005:64), having a positive teamwork experience resulted in the student nurses wishing to work in operating theatre teams after graduation. This supports the current findings about socialization of student nurses into the operating theatre nurse practitioner role by being allowed to work on minor operating procedures.

The findings revealed that the operating theatre is an environment where student nurses are able to integrate what they learned in class with what they see and practice in the clinical setting through seeing the anatomy in real life. The operating theatre is also the environment where student nurses practice the procedures which they learned in theory. Although there was no literature that directly supported this in terms of the operating theatre as a learning environment, these findings were consistent with those of Hathorn (2006:8), who found that student nurses' exposure to clinical placements in general helped them to incorporate and find meaning in the principles and theory learned in the classroom. This is supported by Papp *et al* (2003:263), who described the

clinical environment (such as the operating theatre) as that which also encompasses all that surrounds the student nurse, including the clinical setting, the equipment, the staff and the patient, which makes for a real-life situation for student nurses' learning.

6.2.2 The operating theatre as a negative learning environment

The findings revealed that chaos during major operations or emergencies made the operating theatre a negative environment. Placement in the operating theatre was found to be anxiety-provoking, which led to the operating theatre to being experienced as a negative learning environment. This finding is supported by Reid (2007:2), who reported that the operating theatre is an alien environment that may seem hostile and uninviting to inexperienced student nurses. She further concluded that this not only brings about anxiety and discomfort, but also discourages the student nurses' learning.

The findings revealed that the negative attitudes and behaviours of operating theatre staff towards teaching the student nurses, including scolding and shouting at them, left the student nurses anxious. This compromised open interaction between the student nurses and the staff, and thus negatively affected learning during placements. Similar findings were reported in three different South African studies, which show that negative staff behaviour and attitudes are common in Southern African clinical environments. This could have a negative impact on the student nurses' appreciation of their clinical nursing roles and thus affect their competencies in patient care in the future (Mabuda 2006:82; Mogale 2011:85; Tshabalala 2011:40).

In defence of the staff, the study undertaken by Silen-Lipponen (2005:64) revealed that one of the features of the operating theatre is the emphasis on faultless practice and any mistakes are viewed harshly. This could explain the behaviour of the operating theatre staff and how this is experienced by the student nurses as anxiety-provoking and as a negative learning environment.

Another study that supports the findings of the operating theatre as an anxiety-provoking environment is that by Klerk (2010:34), who stated that student nurses were reported by the professional nurses as being more anxious during their placement in the operating theatre as a new environment. Klerk (2010:35) therefore concluded that the support of the professional nurses was important to assist the student nurses in their clinical learning in the operating theatre as a new clinical environment.

6.2.3 Appropriate duration for learning

Another important finding in this study was the impact of the duration of clinical placement in the operating theatre on student nurses' experience of the operating theatre as an effective or ineffective clinical learning environment. The findings revealed that the shorter the duration of the placement, the more negatively the student nurses experienced the operating theatre as a clinical learning environment. This is supported by Lofmark and Wikblad (2001:47), who indicated that the short clinical placement period is one of the obstructing factors for learning in any clinical learning environment.

The findings further revealed that the longer the duration of the allocation in the operating theatre, the better the student nurses experienced the operating theatre as a clinical learning environment. These findings are supported by Levette-Jones *et al* (2011:12), who stated that in placements of adequate duration, student nurses often feel like active, integral and participative members of the team. They therefore concluded that student nurses have the potential to utilize the clinical learning productively in placements of adequate duration.

6.3 Recommendations

The above findings have implications for nursing education institutions as they prepare for placement of student nurses in the operating theatre; the operating theatre staff as

they are responsible for the student nurses' learning in the operating theatre; and for future research.

6.3.1 Recommendations for nursing education

- Nursing education institutions should review and increase the duration of student nurses' placement in the operating theatre in order to provide them with adequate experiential learning and the opportunity to appreciate the operating theatre as a clinical learning environment.
- Clinical supervisors should be provided by the nursing education institutions in the operating theatre to prepare the student nurses for situations such as the chaos that can occur during emergency situations, and prepare them on what they can do in these situations.
- Alternatively, the nursing education institutions should have formal arrangements with clinical facilities and the operating theatre to have one dedicated staff member who will ensure that student nurses are well orientated and supervised at all times.
- The student nurses should also be provided with the information about the chaotic situations for learning purposes because this 'chaos' is the nature of the operating theatre environment, which will never change; the student nurses have to embrace it and learn from it. Scheduled debriefing sessions should be held with the student nurses after major operations and emergencies to assure them that what they may have perceived as chaotic is the nature of the operating theatre, and that something can be learned from the experience.

6.3.2 Recommendations for operating theatre managers

- The operating theatre staff should be given support in the form of training regarding their role in student nurses' clinical learning so that they can be well equipped on how to provide support and guidance to the student nurses who are placed in the operating theatre for experiential learning.
- The job descriptions of the professional nurses as well as of the other multidisciplinary team members, which show that each of the team member has a responsibility for teaching the student nurses, should be clearly defined so that each of them knows her/his role in meeting the student nurses' learning needs.
- The operating theatre staff should have in-service training on interpersonal communication skills and core skills such as respect for each other in order to create an environment free from anxiety and discomfort for student nurses, and thus encouraging a free and comfortable environment, which is conducive to learning.

6.3.3 Recommendations for future research

- The findings from the current study come from one college in Lesotho. It may be important in future to conduct another study which will focus on the student nurses from all the colleges in Lesotho, and in operating theatres in all the districts. This may help to yield more information because each college utilizes its own hospital for student nurses' clinical learning experiences. The information will therefore be drawn from different operating theatres.
- A study on the professional nurses' perception of their roles in the clinical teaching of student nurses in the operating theatre is recommended in order to fully understand the operating theatre as a clinical learning environment for student nurses.

6.4 Limitations of the study

One weakness of the study was the use of only the interviews for data collection. Participant observation would have given the researcher an opportunity to observe the atmosphere, attitudes and behaviours of both the staff and the student nurses, and to see how this impacts on the operating theatre as a clinical learning environment.

6.5 Conclusion

The findings and the supporting literature show that the operating theatre can provide positive learning experiences to student nurses if the staff attitude is positive and they are willing to teach and socialize the student nurses into the operating theatre nurse practitioner role. The findings also revealed other staff's behaviours that can be experienced by student nurses as anxiety-provoking.

The chaos during emergencies and major operations as well as the nature of the operating theatre as a new learning environment can also make the student nurses experience the operating theatre as a negative learning environment.

According to the findings, student nurses who were allocated in the operating theatre for a longer period experienced the operating theatre as a positive clinical learning environment, while those who had a shorter placement experienced the operating theatre as a negative clinical learning environment.

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University of Cape Town

Appendices

Appendix A: Information sheet

I, Ellen 'Maliapa Motseki am the MSc in Nursing student at the University of Cape Town, Division of Nursing and Midwifery. I am conducting a study on student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho. This study has been approved by the Faculty of Health Sciences Human Research Ethics Committee of the University of Cape Town (Reference number 606/2012). This is in partial fulfilment of MSc Degree in Nursing. The purpose of the study is to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho. The findings from this study will inform nursing education institutions and the operating theatre managers of areas that enhance or hinder learning in the operating theatre. The findings can inform in-service training for professional nurses regarding the operating theatre as a learning environment in Lesotho.

You are requested to voluntarily participate in this study by availing yourself for the interview which will be held by the researcher. The interview will be conducted at Roma College of Nursing at the venue that will be provided by the college authorities. This will be an individual face-to-face interview. The interview will take approximately one hour. It will be conducted in English. The audio recorder will be used to record the information that you will provide. The information that you will share with the researcher will not be shared with other persons besides the research supervisor, who is based in South Africa, for analysis and reporting purposes. All information shared with the researcher will be held in confidence. The tape recorded data that you will provide will be destroyed after completion of the study.

Participation in this study is voluntary. You are free to withdraw from the study or the interview at any time. Your participation or withdrawal from the study will not affect your studies or future job opportunities in the operating theatre. Referral arrangements will be made with the counsellors from the nearest hospital should any of you need

professional counselling during interview process. No payment will be given to you for taking part in this study.

Thank you for participating in this study.

Further information about the study can be obtained from:

Researcher: Ellen 'Maliapa Motseki

Contact details: Cell- +2778 185 0625/ +266 59118772

Email- maliapam@gmail.com

Supervisor: Prof SE Duma

Contact details: Phone-+2721 406 6321

Email-sinegugu.duma@uct.ac.za

Faculty of Health Sciences Human Research Ethics Committee of the University of

Cape Town chair person : Prof Marc Blockman

Contact details: Phone-+2721 406 6492

Email-marc.blockman@uct.ac.za

Appendix B: Consent form

Title of the study: Student nurses' experience of the operating theatre as a clinical learning environment in Lesotho.

Faculty of Health Sciences Human Research Ethics of the University of Cape Town
reference number: 606/2012.

Purpose of the study: The purpose of this study is to explore and describe student nurses' experiences of the operating theatre as a clinical learning environment in Lesotho.

Researcher's name:

Researcher's position:

The interview will be audio recorded. Recorded information will not be shared with anybody besides the supervisor of the study. In the final report of the study, examples will be quoted from the interviews, but these quotes will not bear the actual names of the participants; participants will not be recognized because pseudonyms will be used. The researcher will erase the tapes on completion of the study. The participant is not forced to take part in the study and can withdraw from the study or the interview without any negative impact on her/him.

This is to show that I (name of the participant).....

Agree to participate in the study. I understand that I can withdraw from the study at any time and that I will not be identified in the research report.

Signature of the participantDate.....

Signature of the researcherDate.....



UNIVERSITY OF CAPE TOWN

Faculty of Health Sciences
Faculty of Health Sciences Human Research Ethics Committee
Room E52-24 Groote Schuur Hospital Old Main Building
Observatory 7925
Telephone [021] 406 6339 • Facsimile [021] 406 6411
e-mail: sunavay.niefeldien@uct.ac.za

22 November 2012

HREC REF: 606/2012

Ms E Motseki
c/o Prof S Gijbels
Nursing & Midwifery
HF&R & Rehab
DMB

Dear Ms Motseki

PROJECT TITLE: STUDENT NURSES' EXPERIENCES OF THE OPERATING THEATRE AS A CLINICAL LEARNING ENVIRONMENT IN LESOTHO

I thank you for addressing the issues raised by the Human Research Ethics Committee.

It is a pleasure to inform you that the Ethics Committee has formally approved your collaboration in the above mentioned study.

Approval is granted for one year till the 28 November 2013.

Please submit a progress form, using the standardised Annual Report Form, if the study continues beyond the approval period. Please submit a Standard Closure form if the study is completed within the approval period.

Please note that the ongoing ethical conduct of the study remains the responsibility of the principal investigator.

Please quote the HREC REF in all your correspondence.

Yours sincerely,

PROFESSOR ABEL KIMAN
CHAIRPERSON, HREC HUMAN RESEARCH ETHICS

Signature of Chairperson Number: 220 000 000 000

13 01-2013



Ministry of Health
PO Box 514
Maseru 180

5 February 2013

Ellen M. Motseki
M. Sc. Nursing Candidate
Student number: M1SELL003
University of Cape Town

Dear Ms. Motseki,

Re: Student Nurses' Experiences of the Operating Theatre as a Clinical Learning Environment in Lesotho

Thank you for submitting the above mentioned proposal. The Ministry of Health Research and Ethics Committee having reviewed your protocol hereby authorizes you to conduct this study among the specified population with the condition that the Research Schedule on page 15 is edited to comply with current status. The study is authorized with the understanding that the protocol will be followed as stated. Departure from the stipulated protocol will constitute a breach of the permission.

We are looking forward to have updated Research Schedule, a progress report and final report at the end of your study.

Sincerely,

A handwritten signature in black ink, appearing to read 'M. M. Motseke'.

Dr. M. M. Motseke
Chairperson Research and Ethics Committee
Director General of Health Services



Roma College of Nursing

P.O. Box 26, Roma 180
Lesotho
Tel. +266 28340186
Cell: +266 594004444

6th March, 2013

Ms. Ellen *Maliapa Motseki
University of Cape Town
Faculty of Health Sciences
Private Bag Observatory
South Africa 7935.

Dear Madam

**RE: REQUEST FOR TO CONDUCT THE RESEARCH STUDY AT ROMA COLLEGE
OF NURSING**

The Roma College of Nursing Administration has received your correspondence where a request was made to collect the research data at the Roma College of Nursing amongst the nursing students. It was also confirmed that all the necessary steps have been followed.

Following the sitting of the Faculty (comprising also of the Research Committee) on the 6th March, 2013, it was agreed that such data collection be made with the knowledge that what has been stipulated in your request will be adhered to without compromising the request made. You are wished success in your studies and the College relies on you for continued feedback beyond the period of your study.

Sincerely,

M.L. Keketsi-Molotso
Principal Nurse Educator



4th March 2013.

Ellen M. Mutseki
M.Sc. Nursing Candidate
Student Number MTSELL 003
University of Cape Town.

Dear Ms. Mutseki,

RE: REQUEST FOR CONDUCTING RESEARCH AT ROMA COLLEGE OF NURSING.

The office of Medical Superintendent has received your request on the above mentioned subject and hereby authorizes you to conduct such research. Please consult Roma College of Nursing authority for assistance and liaise with the research and ethics committee.

We wish you all success and hope you will receive a copy of your final report to improve whereas as possible in our Institution (Operating Theatre).

Thank you.

Yours sincerely,



Dr. M. Karibualindu
Ag. Medical Superintendent



Cc: - PNE/RCN
- H.R Office

Appendix G: Interview guide

Date of interview:

Time of interview:

Participant (code):

Please share your experiences of your experiential learning while you were allocated in the OT last year by answering the following questions:

- For how long were you allocated in the operating theatre?
- What was your experience of the operating theatre as a learning environment?
- What was your most positive learning experience and why?
- What was your most negative learning experience and why?

Is there anything else you would like to share with me with regard to your experience in the operating theatre?

Thank you for sharing your experiences with me.